



**ERT**

Expert Paper

# Electricity Market Design

Deepen the internal energy market &  
improve access to competitive energy

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## Introduction

Whilst this year marks the 30th anniversary of the Single Market, the EU is facing several challenges related to geopolitical tensions, supply chain disruptions and an energy crisis of unprecedented proportions that weaken the competitiveness of the block's industrial base.

**A competitive, liquid and integrated wholesale electricity market underpins the European Single Market.** In times of stress, the current framework proved its worth by revealing the short-term price for electricity, appropriately valuing energy savings, and allowing energy to flow freely and timely across borders to where most needed, thus ensuring security of supply despite two supply shocks in gas and power. The fast-tracked reform proposal expected in March should build on the strengths of the energy market (IEM), avoiding measures that weaken it, such as the prolongation or even institutionalisation of the current revenue cap on inframarginal generators, applied at different levels across the EU.

The high electricity prices, particularly in spot markets, are a fundamental expression of a supply deficit in gas and power and have an impact on the forward contracts. While the signal only shows an outcome of the market equilibrium condition, the resulting prices are not desirable and not sustainable for long periods of time.

The regulatory uncertainty created by different interventions, together with the current spot price levels and correspondingly high margin calls, also drained liquidity in the Power Purchase Agreements (PPAs) and forward markets.

**Building on the strengths of the current market design, the European Commission's proposal should enhance the current framework by enabling more long-term instruments appropriate for the different hedging needs of different off-takers.** Long-term contracting helps contain the influence that short-term prices have on prices accessed by consumers. Thus, an effective 'decoupling' effect between short-term and final customer prices can be achieved, without affecting the marginal pricing system that guarantees the most efficient short-term use of resources.

Ultimately, the goal of the reform of the IEM is to **deliver the necessary volumes of investments in new flexible and firm capacity** that will allow the EU to overcome the supply crisis, provide access to affordable carbon-free electricity to consumers and achieve the **Green Deal climate goals**.

**Any reform going beyond targeted adjustments to the existing framework should be underpinned by an in-depth impact assessment and should not be adopted with haste.**

## Policy asks

### 1. Clearly distinguish between the short- and long-term horizons

The fast-tracked reform this year must respond to three core objectives:

1. Safeguard the necessary investments in capacities (renewable power generation, storage, and demand response),
2. Enhance the opportunities for consumers to hedge and stabilise the price of their supply at competitive prices while enabling them to participate in flexibility, and
3. Invest in the necessary expansion and digitalisation of the grids.

Currently, the deployment of renewables is depressed by factors such as the various emergency interventions retroactively impacting existing generation, uncertainty with regard to the market design revision, slow permitting and inadequate/insufficient spatial planning, and grid development. A reform that lifts interventions and reaffirms the commitment to competitive and liquid wholesale markets can offset some of these effects.

The timeframe dictates the boundaries of the reform. Thus, the current model must be enhanced with hedging instruments for market players, but not fundamentally overhauled in the absence of sufficient time to assess the impacts of the changes (see also Section 5).

### 2. Enhance the design with a market-compatible, long-term contracting framework for investors and consumers

The marginal pricing system ensures the efficient dispatch of resources and must be maintained. Efficient short-term markets need to be complemented with a diversity of long-term contracting instruments: forwards/futures and PPAs. Regulatory-backed Contracts for Difference (CfDs) – or similar arrangements – can provide investment security as long as they are voluntary, market-compatible and system friendly. The mix of PPAs, forwards and voluntary CfDs will be different between jurisdictions depending on their circumstances, features and consumers' needs.

- a. **PPAs are the market instrument** that ensures bankability for new investments into Renewable Energy Sources (RES), and they offer long-term

hedging opportunities, particularly to large industrial consumers that can thus secure their main operational costs. While in some markets, the PPAs are liquid instruments (e.g., Spain and Nordic countries), in other geographies the uptake is lagging behind, depending on elements such as consumers' hedging preferences, the energy mix (e.g., development of flexible resources accompanying increasing RES penetration) or the progress in the transition towards renewable energy, among others. National regulatory constraints also constitute a barrier in some jurisdictions, while others are related to their design. In their most common form (10-15 years, fixed price) PPAs are only accessible to off-takers with investment-grade credit ratings, as the purchase obligation is accrued as debt.

#### Possible reform areas:

Regulatory reforms to enable the conclusion of cross-border PPAs are required including:

- i) Ensuring all renewable generation receives the guarantees of origin (GoOs) necessary to track and trade power across borders,
- ii) Transmission capacity made available for longer tenors, and
- iii) Standardising the nature of Long-term Transmission Rights (LTTRs) and Financial Transmission Rights (FTRs).

Concerning FTRs, a certain degree of harmonisation across borders in Europe is needed, to ensure FTRs as options can be allocated across all EU borders. TSOs should maximise the availability of cross-border capacity that is financially firm and minimises the risk to market parties from curtailment while ensuring feed-in priority for local renewable energies.

The efficient uptake of PPAs also relies on their attractiveness for a larger pool of off-takers. In their common design, PPA prices are still largely influenced by a short-term market price and, therefore, entering such arrangements in a period of high prices cannot be considered a silver bullet solution in the crisis and, in particular, to shield industrial consumers.

It is essential to increase the depth and liquidity of this market to delink PPA prices from short-term volatility. Wider accessibility could

be addressed by demand pooling (via e.g., aggregators, consortia, or energy communities) and standardisation of some PPA products which could foster the emergence of a 'secondary' market. Products with different tenors, shaped or merged with different flexibility products to form portfolios could be offered and matched with the need of industrial consumers, SMEs, or suppliers on behalf of households. All these measures would be complementary and should not constrain the possibility to conclude bespoke bilateral contracts between generators and industrial off-takers, in compliance with competition law.

- b. **Voluntary two-way CfDs (or similar arrangements) are both a support and a de-risking scheme** for investors that can lower the cost of capital and contribute to the achievement of the 2030 RES targets. In such a support mechanism, price spikes are paid back by the generator and price drops are covered by the government. Provided that governments are obligated to use the revenue collected to support consumers, two-way CfDs can play a role to stabilise end-user prices.

CfDs, which became widely used after 2014, are understood for this purpose as a contract between the generator and the state and are not a direct marketing instrument to consumers. Volumes contracted under such schemes are sold on short-term markets due to the way they are typically set up. In the future, CfDs need to be better designed to be compatible with merchant PPAs, forward and futures and respond to the adequacy needs of the energy system.

CfDs should be voluntary and dedicated to supporting new investments in clean power production. Mandatory retroactive application on existing generators is ex-post price regulation and must be avoided because of the impact on investors' confidence.

Possible reform areas:

If support schemes are established, well-designed symmetrical CfDs should be considered an appropriate model to limit possible unexpected proceeds and secure the generator's revenue for timeframes where prices are low in the future.

The design elements of the CfDs are critical to ensure they are market- and system-compatible. For instance, given CfDs are legally protected against retroactive changes (Art 6 REDII) and free of counterpart risk, they carry the risk of lowering

developers' appetite to enter into merchant contracts, thus limiting access of industrial off-takers to access hedges that best suit them. To solve this, the CfD reference can be set with the aim to stimulate offers on forward or PPA markets. Additionally, the generator should be able to opt out of a CfD in case a merchant route is possible.

The CfD must not mute the price signals needed for developers to optimise the investments and dispatch of plants, nor for innovations in the area of demand-side-management, needed to prevent building-in expensive redundancies in the power system.

The legislative proposal must provide Member States with clear guidelines to ensure the market distortion risks are addressed and the integrity of the internal market is preserved.

- c. **Liquid forward markets** are an effective buffer against volatile prices for both customers and generators. Products of different maturities ranging typically between 1 and 3 years, standardised and bilaterally negotiated, are required to meet the diverse hedging needs of all customers. PPAs, with different tenors and progressive standardisation (as above), would complement the forward market.

In most Member States, liquidity is low, and visibility is short, especially due to the implementation design of the inframarginal rent cap (not recognising generators' forward offers) and the high margin calls. Currently, forward markets are not able to deliver signals to enhance the decarbonisation of EU economy and associated long-term business plan.

Possible reform areas:

It is crucial to ensure that long-term contracts are compatible with a diverse portfolio of forward products, as discussed in previous sections. Strict collateral rules are the main constraint in today's forward markets, which should be addressed notably by broadening the range of non-cash collateral accepted. Not least, the impact of the Inframarginal rent cap in different Member States should be carefully assessed and corrected.

Measures to help boost liquidity and enable cross-border hedging to include enabling longer LTRs and standardised FTRs and allowing RES generation to receive their GoOs that ensure traceability as close as possible to real-time production and geographical location (*see also the section on PPA liquidity above*).

### 3. Retail offers should shield consumers from excessive volatility, but not inhibit their participation in flexibility

As a consequence of the crisis, it has become politically desirable to fix prices for consumers and additionally set obligations for suppliers to hedge. This has downsides like locking in high prices and limiting consumers' right to change suppliers.

Fixed price contracts should thus be voluntary, not least because they might not be a desirable hedge for all consumers. In 'normal' times, consumers should receive price signals when demand moderation is needed and be allowed to capture high market prices in return. The penetration of intermittent power generation must be met with increasing volumes of demand-side flexibility from industrial and household consumers, with a reflective remuneration.

Crucially, imposing hedging obligations on suppliers in the current context would further aggravate the illiquidity in forward markets and drive up prices for other market participants.

#### Possible reform areas:

All possible hedging opportunities to achieve cost optimisations must be enabled by boosting liquidity in forward markets and voluntary access to both standard and custom PPAs. New market entry rules related to financial viability or creditworthiness, as well as market exit rules for suppliers, should be considered as an appropriate policy tool to protect customers from 'rogue' suppliers entering the market at low prices and leaving when they rise.

### 4. Match the pace of RES deployment with grid expansion and digitalisation

The ambitious RES targets for 2030 (either 40% or 45%) must equally consider investments in the physical expansion of the network and digital solutions, both at the transmission and distribution level (which is expected to connect half of the generation capacity by 2030), as well as sector integration to foster system efficiency. While the investment conditions for infrastructure are within the jurisdiction of National Regulatory Authorities (NRAs), it is necessary to clarify and refocus their mandate.

#### Possible reform areas:

New provisions should be introduced in the EU Electricity Directive calling for EU Member States to abolish all obstacles that might be existing

to the necessary and efficient grid expansion at national level. Concretely, NRAs should be mandated to grant the right investment conditions for grid expansion, respectively timely recognition of investments (CapEx) and adequate rates of return are crucial to ensure the viability of investments, especially in the current context of increasing interest rates. In parallel, NRAs should prepare the right framework to incentivise system operators to procure flexibility, in line with the provisions of the Clean Energy Package. In this sense, flexible and adequate recognition of OpEx must be ensured. The digitalisation of the energy sector will invariably increase operational costs which should not be subject to unfit efficiency targets.

### 5. A healthy dose of realism: what can and cannot be achieved by a fast-tracked reform of the electricity market

- a. **The immediate challenges the market participants face in the EU are a supply deficit of gas and power and the resulting high energy prices.** These can only be overcome by demand moderation and urgent investments in new clean power generation capacity. The stability of the legal framework as well as preserving the integrity of the market are clear prerequisites.

Industry's access to competitive energy prices is a fundamental objective to maintain prosperity in Europe and should be vigorously addressed. However, an immediate fix through the reform of the market design is not possible without jeopardising investments and impacting the long-term viability of the energy market. Triggering a fragmentation of the IEM will increase overall system costs in the long run.

#### Possible immediate measures:

High operational costs for energy-intensive companies should be addressed via a targeted change in the Temporary State Aid Framework and/or the future European Sovereignty Fund (to enable a similar treatment of companies across EU Member States). Additionally, two important no-regret options remain largely unsolved: 1) the removal of taxes and levies from the final electricity price and 2) the extension of the emergency permitting procedures to projects that were already in the process at the time of adoption of the Emergency Council Regulation. For example, currently 80 GW of wind capacity are stuck in permitting across the bloc, according to data from WindEurope. Access to electricity at competitive prices must also be complemented by tradeable and traceable Guarantees of Origin.

- b. **The long-term goal is to optimise the market design so that the increasing percentage of renewable electricity is efficiently integrated into the system and to provide incentives for the required flexible and firm capacities.**

The full spectrum of challenges derived from the evolving blueprint of the energy system can and should not be addressed in haste by the upcoming proposal of the Commission, without an impact assessment and consultation process (see the REMA process in the UK).

The high penetration of variable RES generation will increase the price and volume risks for market participants if not accompanied by well-designed, firm, and flexible capacity. Such a system will become difficult to govern based on the Energy Only Market rules we have today and will likely need to be complemented by well-designed capacity mechanisms.

With price volatility on the rise, a market design driven by short-term signals alone will not provide sufficient conditions for generators and consumers to catalyse additional investments. At the same time, it is incrementally important to tap into flexibility and this can only be achieved if consumers are allowed both to feel the bite as well as capture high spot prices.

Possible long-term reform areas:

A security of supply framework adequate for the evolving needs of the power system will have to be developed i.a, by reconsidering the role of capacity markets to deliver the necessary generation, flexibility, and storage capacities.

The way out of a supply crisis is through investments in new supply, distribution and demand-side solutions. The lesson to be learnt from the Inflation Reduction Act (IRA) in the US is that we have to deliver a simple, stable, and output-focused framework in the EU to prevent capital drain.



The European Round Table for Industry (ERT) is a forum that brings together around 60 Chief Executives and Chairmen of major multinational companies of European parentage, covering a wide range of industrial and technological sectors. ERT strives for a strong, open and competitive Europe as a driver for inclusive growth and sustainable prosperity. Companies of ERT Members are situated throughout Europe, with combined revenues exceeding €2 trillion, providing around 5 million direct jobs worldwide - of which half are in Europe - and sustaining millions of indirect jobs. They invest more than €60 billion annually in R&D, largely in Europe.

This Expert Paper has been prepared by the ERT Energy Transition & Climate Change Working Group.

More info and previous papers are available on: <https://ert.eu/focus-areas/energy-and-climate-change/>

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